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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,186	10/05/2005	Detlef Rehorek	JMYT-345US	4922
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VALLEY FORGE, PA 19482				
EXAMINER				
TRAN, BINH X				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/525,186

Applicant(s)

REHOREK ET AL.

Examiner

Binh X. Tran

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/US)
Paper No(s)/Mail Date 02/22/2005
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2, 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 2, the compound " $\text{Bi}(\text{NO}_3)_3 \cdot x\text{H}_2\text{O}$ " is indefinite because applicants fails to define what "x" is, or the value of "x".

In claim 8, "other glass frits and pigments" is indefinite because it is unclear whether the other glass frits and pigments can be the same with the glass frit and pigment in claim 1 or not.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-4, 6-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tunker (US 5,443,669) in view of Peer (WO 97/36836).

Respect to claims 1-2, Tunker discloses an ink comprising a glass frit, a pigment, an organic vehicle (i.e. screen printing oil), and an oxidizing agent (i.e. lead dioxide, or manganese oxide) (See col. 2-4).

Tunker fails to disclose the oxidizing agent comprises bismuth salt of nitric acid selected from BiONO_3 , $\text{Bi}_5\text{O}(\text{OH})_9(\text{NO}_3)_4$, $\text{BiONO}_3 \cdot \text{H}_2\text{O}$ and $\text{Bi}(\text{NO}_3)_3 \cdot x\text{H}_2\text{O}$. Peer teaches to use an oxidizer (or modifier) includes $\text{Bi}(\text{NO}_3)_3 \cdot 5\text{H}_2\text{O}$ in order to improve the rheology of the sealing process and prevent other chemical from being reduced (abstract, page 17). Peer further discloses $\text{Bi}(\text{NO}_3)_3 \cdot 5\text{H}_2\text{O}$ is preferred over lead oxide (page 17). It would have been obvious to one having ordinary skill in the art, at the time of invention, to modify Tunker in view of Peer by using $\text{Bi}(\text{NO}_3)_3 \cdot 5\text{H}_2\text{O}$ as an oxidizing agent because it will improve the rheology of the sealing paste or prevent other chemical from being reduced.

Respect to claim 3, Peer discloses to use the oxidizing agent at the amount range from 0.25 to about 1wt% (page 20 lines 1-3, read on applicant's range). Respect to claim 4, Tunker discloses the glass frit is lead borosilicate (col. 4 lines 50-55). However, Tunker fails to disclose the softening point of lead borosilicate glass.

Softening point is a property of glass material. According to MPEP 2112.01 "Products of identical chemical composition can not have mutually exclusive properties. A chemical composition and its properties are inseparable". It is known in the art that lead borosilicate glass has a softening point of 500 °C or less (read on applicant's range; See evidence by Goda et al. US 2002/0135281 paragraph 0024).

Respect to claims 6-7, Tunker teaches to use 28 wt% of copper chrome (See table in col. 4). Respect to claim 8, Tunker disclose the seed material selected from the group consisting of silica, other glass frits and pigments (See col. 3 lines 26-40, lines 56-64). Respect to claim 9, Tunker discloses the seed material (silicate) comprises about 4 wt% (See col. 4 lines 50-57). Respect to claim 10, Tunker discloses the organic vehicle comprises a screen printing medium (col. 4 lines 45-67).

Respect to claims 11-12, Tunker discloses a laminated glass substrate coated or decorated using the ink. Respect to claim 13, Tunker discloses a method for applying a ceramic ink to substrate following by drying and firing using the ink as discussed above. Respect to claim 14, Tunker discloses the substrate is glass.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tunker and Peer as applied to claims 1-3, 6-14 above, and further in view of Nagai et al. (US 2002/0146569 A1).

Respect to claim 5, Tunker fails to disclose the glass frit comprises a bismuth containing frit. However, Peer clearly teaches to add bismuth containing compound into the glass. Nagai teaches to add bismuth containing frit in order to control the softening point (paragraph 0040). It would have been obvious to one having ordinary skill in the

art, at the time of invention, to modify Tunker and Peer in view of Nagai by using bismuth containing frit because it helps to control the softening point of the glass.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tunker and Peer as applied to claims 1-3, 6-14 above, and further in view of Goda et al. (US 2002/0135281 A1).

Respect to claim 5, Tunker fails to disclose the glass frit comprises a bismuth containing frit. However, Peer clearly teaches to add bismuth containing compound into the glass. Goda teaches to add bismuth containing frit in order to control the softening point (paragraph 0024). It would have been obvious to one having ordinary skill in the art, at the time of invention, to modify Tunker and Peer in view of Goda by using bismuth containing frit because it helps to control the softening point of the glass.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh X. Tran whose telephone number is (571) 272-1469. The examiner can normally be reached on Monday-Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Binh X Tran
Primary Examiner
Art Unit 1792

/Binh X Tran/
Primary Examiner, Art Unit 1792